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GB 1598751

US 4329978

US 4269173

GB 1319773

US 4316448

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(54) Solar panel mounting

(57) A mounting for a solar panel 14 comprises a collapsible framework 11 having a shipping position, Fig. 3, in which it fits into a box 12 for shipping and a deployed position, Fig. 2, in which a support 13 for the solar panel 14 is adapted to the latitude in which the panel is to be used, preferably so that the angle the panel 14 makes with the horizontal is some 10 to 15° greater than the said latitude. A water storage tank 19 for the solar panel 14 is provided.

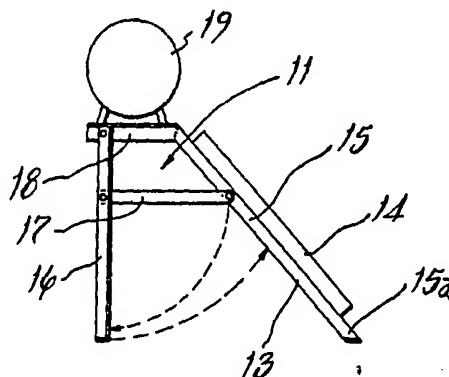


FIG. 2

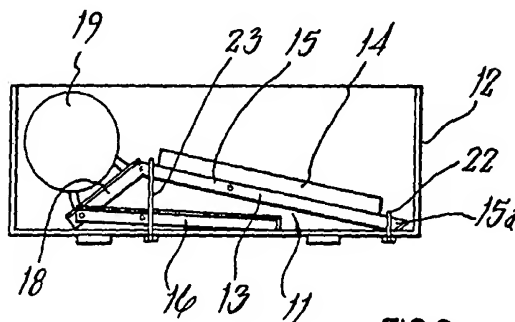


FIG. 3

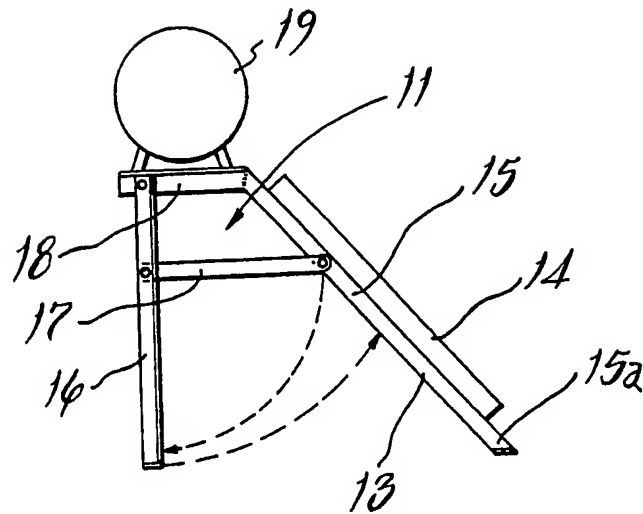


FIG. 2

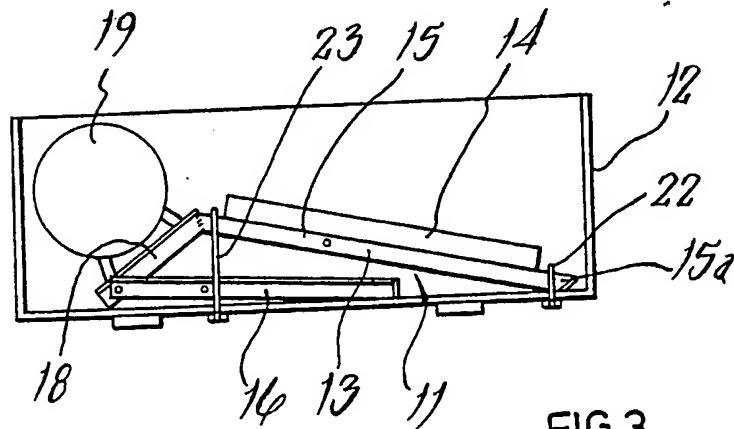


FIG. 3

SPECIFICATION

Solar panel mounting

- 5 This invention relates to mountings for solar panels.

It is well known that the maximum heat collection solar panels should be mounted normal to incident solar radiation. The best arrangement from this point of view is clearly to have a steerable device that can be arranged to follow the sun so that the panel always presents normally to the sun at whatever time of year and day, and regardless of where the panel is in relation to the sun. Such an arrangement however is usually prohibitively expensive for any but large, expensive solar collecting devices. Moreover, concepts of latitude and optional alignments are not necessarily well understood so that in many cases solar collectors can be wrongly aligned leading to inefficiencies in operation. Even if it is understood how to align a panel, it is in general a problem to provide a suitable

25 mounting.

On the other hand, to provide a mounting ready aligned for a solar panel is also a problem from two points of view—first of all if international trade is contemplated, it has to be recognised that different locations will require different alignments. The obvious solution is to provide an adjustable mounting, but this again requires an on site decision as to the correct alignment. To ship solar panel mountings ready aligned would seem wasteful of space and add to shipping costs.

The present invention provides a solution to these problems.

The invention comprises a mounting for a solar panel comprising a collapsible framework having a shipping position in which it fits into a low volume box for shipping and a deployed position in which a support for the solar panel is adapted to the latitude in which the panel is to be used.

The mounting may comprise a panel support frame pivotally connected to a prop frame which, in its deployed position with the remote end of the panel support frame on level ground, holds the said panel support frame at an angle adapted to the said latitude.

The mounting may be braced in the deployed position by a releasable brace which may be fixed by pins, bolts or the like.

55 The mounting may be made substantially of angle iron or like modular constructional material, and may have additionally an upper location for a water storage tank for the solar panel.

60 One embodiment of a mounting for a solar panel according to the invention will be now be described with reference to the accompanying drawings, in which:

65 *Figure 1* is a perspective view of the deployed mounting;

Figure 2 is a side elevation, showing the deployed mounting with a solar panel and water tank, and

70 *Figure 3* is a side elevation of the mounting illustrated in *Fig. 2* boxed ready for shipping.

The mounting for a solar panel according to the invention comprises a collapsible framework 11 having a shipping position (illustrated in *Fig. 3*) in which it fits into a shipping box 12 (*Fig. 3*) of low volume as compared with the volume occupied by the mounting in its deployed position illustrated in *Figs. 1* and *2* in which a support 13 for the solar panel 14 is adapted to the latitude in which the mounting is to be used.

80 The mounting comprises a panel support frame 15 pivotally connected to a prop frame 16 which, in its deployed position, with the remote end 15a of the support frame 15 on level ground holds the support frame 15 at an angle 'A' adapted to the said latitude. The angle 'A' is desirably some 10 or 15° greater than the said latitude.

85 Releasable braces 17 brace the mounting in its deployed position.

90 For especially inexpensive production the mounting may be made substantially of angle iron.

The mounting also comprises an upper location 18 for a water storage tank 19, which can be shipped together with the mounting and with an attached solar panel 14 as shown in *Fig. 3*.

95 Feet 15b at the end 15a of the support frame 15, on which the frames can rest on the ground when deployed, have apertures 21 (*Fig. 1*) for shipping bolts 22 (*Fig. 3*) and further bolts 23 locate in apertures in or other than or both of the frames 15 and 16.

100 Thus a range of mountings can be made each suitable for a particular latitude and each adapted to be deployed in one position and one position only so as to avoid the need for taking on-site decisions, yet which all fit neatly into a relatively small volume shipping box.

CLAIMS

1. A mounting for a solar panel comprising a collapsible framework having a shipping position in which it fits into a low volume box for shipping and a deployed position in which a support for the solar panel is adapted to the latitude in which the panel is to be used.

2. A mounting according to claim 1, comprising a panel support frame pivotally connected to a prop frame which, in its deployed position with the remote end of the panel support frame on level ground, holds the said panel support frame at an angle adapted to the said latitude.

3. A mounting according to claim 1 or claim 2, such that the panel support holds a plane panel at an angle to the horizontal some 10 or 15° greater than the said latitude.

4. A mounting according to any one of claims 1 to 3, which is braced in the deployed position by a releasable brace.

5. A mounting according to any one of claims 1 to 4, made substantially of angle iron.

6. A mounting according to any one of claims 1 to 5, having an upper location for a water storage tank for the solar panel.

10 7. A mounting substantially as hereinbefore described with reference to the accompanying drawings.

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